EXISTENCE OF POSITIVE PERIODIC SOLUTIONS FOR A SECOND-ORDER DIFFERENTIAL EQUATION WITH INDEFINITE WEIGHT

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Abstract

In this paper, we will study the existence of positive solutions for the periodic boundary value problem

\[
\begin{aligned}
    u'' + a(t)u &= \lambda b(t) f(u), \\
    u(0) &= u(T), \quad u'(0) = u'(T)
\end{aligned}
\]

with sign-changing Green’s function and indefinite weight. The method used here is the Schauder fixed point theorem.

Keywords and phrases: periodic boundary value problem, positive solution, fixed point theorem.